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**REMARKS**

Claims 1-40 are currently pending in the subject application and are presently under consideration. Claims 3 and 16 have been amended and new claims 41 and 42 have been added as shown at pages 2-10 of this Reply. In addition, the specification has been amended as indicated at page 2.

A copy of the executed Declaration and Power of Attorney is being resubmitted herewith in accordance with the Examiner's request.

Favorable reconsideration of the subject patent application is respectfully requested in view of the comments and amendments herein.

**I. Objection to Claims 3 and 17 for Informalities**

Claims 3 and 17 stand objected to for minor informalities. Claim 3 has been amended herein to correctly recite dependency to claim 2. Applicant's representative assumes that the objection to claim 17 is meant for claim 16 as claim 17 does not include the word "accessed." Based on that assumption, claim 16 has been amended to correct the typographical error.

The aforementioned amendments are believed to cure the subject informalities. Accordingly, withdrawal of this objection is requested.

**II. Rejection of Claims 1-12, 14, 16-20, 22-35, and 37-40 Under 35 U.S.C. §103(a)**

Claims 1-12, 14, 16-20, 22-35, and 37-40 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Bottomley (US Pub. No.: 2004/0015912), in view of Driesen, "Selector Table Indexing & Sparse Arrays", October 1993. This rejection should be withdrawn for at least the following reasons.

The cited references alone or in combination fail to teach or suggest each an every aspect recited by the claims. Moreover, there is not proper motivation to combine Bottomley and Driesen.

A *prima facie* case of obviousness is established by a showing of three basic criteria. First, *there must be some suggestion or motivation*, either in the references themselves or in the

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knowledge generally available to one of ordinary skill in the art, to modify the reference or *to combine reference teachings*. Second, there must be a reasonable expectation of success. Finally, the *prior art reference* (or references when combined) *must teach or suggest all the claim limitations*. See MPEP §706.02(j). The teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art and not based on applicant's disclosure. See *In re Vaeck*, 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991) (emphasis added).

Neither Bottomley nor Driesen alone or in combination teach or suggest each and every aspect of applicant's claimed invention. As per claim 1 (and similarly in independent claims 18, 28, and 38), there is no teaching or suggestion of *an index component adapted to assign index numbers to interfaces as they are loaded*, as suggested by the Examiner. Bottomley, merely discloses that "For an application containing a total of J interfaces, the system interface table 150 ... contains a list of all interfaces 1-J." ([0069], Fig. 14). The reference continues by disclosing an embodiment of the invention in which the master interface table refers to an interface virtual table associated with an interface at positions corresponding to the positions of the entries in the system interface table. There is no teaching of assignment of index numbers to interfaces as they are loaded. Rather, the numbering 1- J is for descriptive purposes only describing a plurality of interfaces and providing clarity in understanding the positioning of entries in the master interface table relative to the interfaces in the system interface table.

Additionally, neither Bottomley nor Driesen alone or in combination disclose, teach or suggest the pre-execution engine being adapted *to determine row structure* for a class type ... *based on a class type and interfaces implemented by the class type using the indices assigned to interfaces ... associating indices with empty slots in the interface map based on the configuration of the row structure* and storing references to the interface virtual tables in the empty slots *when enough empty slots are found for the respective row structure*, as recited by claim 1 (and similarly by independent claims 18, 28 and 38). The Examiner contends that an entry in master interface table 152 of Fig 14 is a row structure. The entry, however, is not determined by class type and interfaces implemented by the class type using

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indices assigned to the interfaces. In fact, table 152 is simply populated based on a system interface template that houses all the interfaces in the system. Moreover, table 152 is not stored to empty slots *when enough slots are found for the respective row structure*. Table 152 simply corresponds to a one-to-one mapping to the system interface table 150 such that there is always an available slot.

With respect to claim 6, the Examiner rejects this claim by simply identifying a class loader in Bottomley. However, this fails to teach or suggest that the pre-execution engine of the subject invention is one of a loader and a linker as recited in the subject claim.

As per claims 7-8, official notice was taken "...that the use of a Java machine with optimization and interpretation capability just before execution time such as a JIT was known at the time the invention was made; and JIT would be known to interpret, recompile and execute." Applicant's representative respectfully requests that the Examiner provide support for the purported well known statement pursuant to MPEP § 2144.03 if the rejection of claims 7-8 is to be maintained or alternatively withdraw this rejection.

Moreover, there is not proper motivation to combine Bottomley and Driesen to obviate the claimed invention as suggested by the Examiner.

*The prior art items themselves must suggest the desirability and thus the obviousness of making the combination without the slightest recourse to the teachings of the patent or application.* Without such independent suggestion, the prior art is to be considered merely to be inviting unguided and speculative experimentation which is not the standard with which obviousness is determined. *Amgen, Inc. v. Chugai Pharmaceutical Co. Ltd.*, 927 F.2d 1200, 18 USPQ2d 1016 (Fed. Cir. 1991); *In re Laskowski*, 871 F.2d 115, 117, 10 USPQ2d 1397, 1398 (Fed. Cir. 1989); *In re Dow Chemical Co.*, 837 F.2d 469, 473, 5 USPQ2d 1529, 1532 (Fed. Cir. 1988); *Hodosh v. Block Drug*, 786 F.2d at 1143 n. 5., 229 USPQ at 187 n. 4.; *In re Gordon*, 733 F.2d 900, 902, 221 USPQ 1125, 1127 (Fed. Cir. 1985) (emphasis added).

It is impermissible to use the claimed invention as an instruction manual or "template" to piece together the teachings of the prior art so that the claimed invention is rendered obvious. This court has previously stated that "*one cannot use hindsight*

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*reconstruction to pick and chose among isolated references in the prior art to deprecate the claimed invention. In re Fitch, 23 USPQ2d 1780, 1784 (Fed. Cir. 1992) (quoting In re Fine, 837 F.2d 1071, 1075 5 USPQ2d 1596, 1600 (Fed. Cir. 1988)) (emphasis added)*

Bottomley discloses method invocation quickening methodologies. More specifically, various manners of structuring and utilizing method call instructions are presented. One broad aspect of Bottomley concerns interface method dispatch including employment of a system interface table, a master interface table and an interface virtual table. In contrast, Driesen is concerned with message-passing and dynamic binding associated therewith in object oriented languages.

In particular, Driesen discloses a memory management structure that maps sparsely populated class tables into a master array or double array. *Driesen does not disclose and is not concerned with interface calls* as provided in the subject claims and described in part by Bottomley. Thus, it appears that the Examiner has relied on improper hindsight in reaching the purported obviousness conclusion where the subject application provides the missing teaching or suggestion to combine. Further supporting applicant's position that the Examiner relied on improper hindsight to depreciate the subject invention is the purported support for such a combination. The Examiner claims that the motivation to combine the references is based on redundant row storage or allocation of memory as suggested by Bottomley and taught by Driesen. However, neither of the cited references pertains to redundancy. Accordingly, the Examiner seems to have misinterpreted the teachings of the references or otherwise did not provide clear and particular evidence of a motivation in the prior art to combine these particular references.

Still further yet, the cited references are not properly combinable as Driesen teaches away from both Bottomley and the claimed invention.

Obviousness can only be established where there is some teaching or suggestion for the purposed modification or combination. *In re Fine, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988); In re Jones, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992). A reference that teaches away from the art is a per se demonstration of a lack of prima facie obviousness. In re*

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*Geisler*, 116 F.3d 1465, 43 USPQ2d 1362 (Fed. Cir. 1997) (emphasis added). A reference may be said to teach away when a person of ordinary skill, upon reading the reference, would be discouraged from following the path set out in the reference, or would be led in a direction divergent from the path that was taken by the applicant. *In re Gurley*, 27 F.3d 551, 553, 31 USPQ2d 1130 (Fed. Cir. 1994); *Tec Air, Inc. v. Denso Mfg. Mich. Inc.*, 192 F.3d 1353, 52 USPQ2d 1294 (Fed. Cir. 1999).

In accordance with the teachings of Driesen, a multitude of class tables that include methods associated therewith can be eliminated and instead packed into a single master array. This teaches away from the present invention as claimed as well as Bottomley, which both disclose that the class tables providing method reference (a.k.a. interface virtual tables) are maintained as separate tables referenced by at least one other table such as the master interface table in Bottomley or the interface map of the subject invention (as recited by claims 1, 18, 24, and 38). Hence, the Driesen teachings would lead a person of skill in the art in a divergent direction than that taken by the primary reference, Bottomley, and the applicant. Accordingly, Driesen teaches away from the primary reference and the claimed invention and is not properly combinable to establish a *prima facie* case of obviousness.

In view of at least the above, it is readily apparent that applicant's invention as recited in independent claims 1, 18, 28, and 38 (as well as claims 2-12, 14, 16-17, 19-20, 22-27, 29-35, 37, and 39-40 depending directly or indirectly thereon) is not rendered obvious by the prior art of record at least because Bottomley and Driesen are not properly combinable references and each and every claim limitation is neither disclosed nor suggested by Bottomley alone or in combination with Driesen. Accordingly, this rejection should be withdrawn.

### **III. Rejection of Claim 13 Under 35 U.S.C. §103(a)**

Claim 13 stands rejected under 35 U.S.C. §103(a) as being unpatentable over Bottomley and Driesen as applied to claim 1, and further in view of Alpern, (US 6,652,248). This rejection should be withdrawn for at least the following reason.

Claim 13 depends from claim 1, and therefore the subject claim is allowable for at least the same reasons as claim 1, discussed *supra*. Accordingly, it is respectfully requested

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that this rejection be withdrawn.

**IV. Rejection of Claims 15, 21, and 36 Under 35 U.S.C. §103(a)**

Claims 15, 21, and 36 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Bottomley and Driesen as applied to claim 1, 18, 34, and further in view of Miloushev, *et al.* (US 6,226,692). This rejection should be withdrawn for at least the following reasons.

Claims 15, 21, and 36 depend directly or indirectly from independent claims 1, 18, and 28, respectively. Consequently, claims 15, 21, and 36 are allowable for at least the same reasons as claims 1, 18, and 28.

Moreover, the claims 15, 21, and 36 should be allowable at least because the cited references fail to disclose, teach, or suggest each and every recited claim limitation. Even though Miloushev, *et al.* refers briefly to COM/OLE objects and Bottomley (alone or in combination with Driesen) describes a Java dispatch table there is no disclosure or teaching regarding the *creation of a special or second interface map* for all COM classes and COM interfaces, as recited by claims 15, 21, and 36. Accordingly, this rejection should be withdrawn.

**V. New Claims 41 and 42**

Claims 41 and 42 have been newly added herein to more clearly recite particular aspects of the subject invention. These claims do not introduce new matter that has not already been considered by the Examiner. Accordingly, claims 41 and 42 should not require further searching or undue consideration, and these claims are believed to be allowable in view of at least the aforementioned deficiencies of the prior art. Entry and allowance of the new claims is respectfully requested.

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CONCLUSION

The present application is believed to be in condition for allowance in view of the above comments and amendments. A prompt action to such end is earnestly solicited.

In the event any fees are due in connection with this document, the Commissioner is authorized to charge those fees to Deposit Account No. 50-1063.

Should the Examiner believe a telephone interview would be helpful to expedite favorable prosecution, the Examiner is invited to contact applicant's undersigned representative at the telephone number below.

Respectfully submitted,

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